

REMARKS - General

By the above amendments, applicants have rewritten or cancelled their claims to definitely define the invention. Applicants also have added new claims.

Indication of Allowable Subject Matter

Applicants thank Examiner Fiorilla for the indication that claims 1-5 contain allowable subject matter.

Objections to the Abstract

Applicants have amended the abstract, as seen above, and request reconsideration of the objections in view of the amendment.

Rejections Under 35 U.S.C. §112, Second Paragraph

Applicants have amended the present claim set and request reconsideration of the indefiniteness rejections.

Double Patenting

Claims 1-5 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting. Applicants submit a terminal disclaimer along with this letter. Applicants request withdrawal of the rejections in view of the terminal disclaimer.

New Claims

Claim 8 is added by this amendment. Applicants submit that this claim is allowable for at least the reasons that it captures the narrower limitations of pre-amended claim 2, and because it depends from claim 1, a claim that has been indicated as allowable

Conclusion

For the above reasons, applicants submit that the specification and claims are now in proper form.

Conditional Request For Constructive Assistance

Applicants have amended the claims of this application so that they are proper and definite. If, for any reason this application is not believed to be in full condition for allowance, applicants respectfully request the constructive assistance of the Examiner pursuant to M.P.E.P. § 2173.02 and § 707.07(i) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

Respectfully submitted,



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April 17, 2003

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MARKE-D-UP VERSION OF THE SPECIFICATION

Please replace the abstract with the following:

The disclosure describes a A method to fabricate nanostructures of fabricating nanostructure bodies by integrating the steps of attriting precursor nanometer-sized particulate materials, desorbing the exposed surfaces of the attrited nanoparticulates, adsorbing a surfactant on at most 50% of the desorbed surfaces and dispersing the surfactant-coated nanoparticulates in an organic matrix to form a homogeneous thermoplastic compound from which green nanostructures bodies are shaped, dewaxed and sintered. The method substantially overcomes the problems of aggregation, contamination and pyrophoricity inherent in nanoparticulates.

MARKE-D-UP VERSION OF THE CLAIMS

1 (Twice Amended) A method for producing nanostuctures a body from nanoparticulate material, comprising the steps of:

- a. providing at least one type of sinterable precursor nanoparticulate material,
- b. attriting a predetermined volume of said precursor nanoparticulate material or materials under a protective non-reactive fluid blanket having substantially higher density than that of water, **with the dual-purpose of and** breaking up any substantially all aggregates and mechanically removing any substantially all adsorbed volatiles, moisture, atmospheric gases or contaminants from the surface of said nanoparticulates or from the fresh surfaces generated during attrition,
- c. separating any substantially all contaminants thus removed from the deaggregated nanoparticulates,
- d. removing the protective fluid blanket from the decontaminated nanoparticulates using vacuum distillation,
- e. desorbing the surface of the nanoparticulates by applying a sufficiently high vacuum,
- f. allowing a predetermined volume of a suitable surfactant to adsorb onto the surface of the said desorbed nanoparticulates such that at

most 50% of the nanoparticulates' surface will be coated with a monolayer of said surfactant.

- g. dispersing said surfactant-coated nanoparticulates in a predetermined volume of a suitable degradable thermoplastic binder to form a homogeneous thermoplastic compound
 - h. shaping said thermoplastic compound into **a green bodies body**.
 - i. extracting substantially all of the organic thermoplastic material from said green **bodies body** and sintering the thus obtained organic-free **preforms preform**.
2. (Amended) The method of Claim 1 **whereby wherein** the said nanoparticulate materials are selected from the class of metals and their alloys, ceramics and their alloys and mixtures of metals and ceramics **or and** their alloys, **including metal oxides, carbides, borides, nitrides, silicides, aluminas, mullite, zeolites and combinations thereof**.
 3. (Amended) The method of Claim 1 **whereby wherein** the said degradable thermoplastic binder ingredients are selected from the class of polyolefins, waxes, plasticizers, greases, oils, surfactants and mixtures of these.
 4. (Amended) The method of Claim 1 **whereby wherein** the formation of aggregates is reduced or prevented.
 5. (Amended) The method of Claim 1 **whereby wherein** the pyrophoricity of nanoparticulates is controlled.